

CS 101 Homework: 4 – 24 – 2022

Save your code as `lastname_homework.py` and submit on Google Classroom.

Task 1

Examine the numpy `.array()` function. Check the examples at the bottom of this page: <https://numpy.org/doc/stable/reference/generated/numpy.array.html>

Using `np.array()`, manually create a numpy array that looks like this:

5	0
7	1

Task 2

Using either `np.zeros()`, create a two-dimensional numpy array that has 3 rows and 4 columns. The data type of the array should be `np.int32`.

Task 3

Using the array from Task 2, change all values in the array to 9. (See classwork code for an example).

Task 4

Create a 5 by 5 array with integer values randomly drawn between 4 and 8 (included). Print the value of the cell located in the second row and third column of the array.

Task 5

Print all values located in the fourth row of the array that you created in Task 5.

Task 6

Let's call your previously created array `X`.

What is `np.sum(X)`? What is `np.sum(X, 0)`? What is `np.sum(X, 1)`?

Task 7

What is `np.mean(X)`? What is `np.mean(X, 0)`? What is `np.mean(X, 1)`?

Task 8

Using `np.random.uniform()`, create a 5 by 5 array with values randomly drawn between 0.1 and 0.2. Hint: if you are not sure how to use the `np.random.uniform()` function, take another look at `np.random.randint()` which we used in class.